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WITMER, GARY W., DAN L. CAMPBELL, DALE L. NOLTE, AND MICHAEL J. PIPAS. Research on nonlethal approaches to wildlife reforestation damage reduction. USDA/APHIS/DWRC, Washington State University, Pullman, WA 99164-6410 USA.

There is a diverse flora and fauna in interior forests of the Pacific Northwest. Some species of mammals pose a hindrance to successful reforestation. For example, pocket gophers (*Thomomys* spp.) clip or debark seedlings and roots; deer (*Odocoileus* spp.) and elk (*Cervus elaphus*) trample seedlings, and browse and antler rub seedlings and saplings. A wide array of protective measures are available to reduce these types of damage, but they are not equally effective, equally priced, or equally acceptable to the public. We are conducting research on nonlethal approaches to reduce damage by deer and elk and by pocket gophers. Approaches under investigation for deer and elk include repellents (predator odors, plant extracts, and other potential compounds) and immunocontraception. We may also investigate various electronic devices. To reduce pocket gopher damage we are investigating systemic and contact repellents, physical barriers, land use practices such as sheep grazing, and the selection of site preparation methods that reduce habitat quality for gophers. Several of these approaches appear promising, based on preliminary trials; however, many specific problems need to be resolved. We are also awaiting the results of long-term field trials.